

What is claimed is:

1. A termination for a MOSgated device; said MOSgated device having an epitaxial junction-receiving layer of a given thickness; said epitaxial layer containing an active area and a termination area laterally adjacent said termination area; said termination area having a first edge adjacent to said active area and a second edge adjacent the outer edge of said device; the surface of said bevel coated with a resistive film for at least approximately linearly distributing the electric field within and along the termination area within said epitaxial layer.
2. The termination of claim 1, wherein said termination area has a lateral dimension which is about equal to or less than the thickness of said epitaxial layer.
3. The termination of claim 1, wherein said resistive film is of a material selected from the group consisting of nitrides, oxides, silicon carbide and semi-insulating films including amorphous silicon, sipos, and silicon-rich nitride.
4. The termination of claim 2, wherein said resistive film is of a material selected from the group consisting of nitrides, oxides, silicon carbide and semi-insulating films including amorphous silicon, sipos, and silicon-rich nitride.
5. The termination of claim 1, wherein said film is amorphous silicon.
6. The termination of claim 2, wherein said film is amorphous silicon.
7. The termination of claim 1, wherein said MOSgated device has a source electrode on its top surface and a drain electrode on its bottom surface; said resistive film connecting said source electrode to said drain electrode.

8. The termination of claim 2, wherein said MOSgated device has a source electrode on its top surface and a drain electrode on its bottom surface; said resistive film connecting said source electrode to said drain electrode.

9. The termination of claim 3, wherein said MOSgated device has a source electrode on its top surface and a drain electrode on its bottom surface; said resistive film connecting said source electrode to said drain electrode.

10. The termination of claim 6, wherein said MOSgated device has a source electrode on its top surface and a drain electrode on its bottom surface; said resistive film connecting said source electrode to said drain electrode.

11. The process for the manufacture of vertical conduction MOSgated semiconductor devices having a source electrode and a drain electrodes on their upper and lower surfaces respectively; said process comprising the steps of forming an epitaxial layer of a given thickness atop a support wafer; forming a plurality of laterally spaced MOSgated device active areas in the upper surface of said epitaxial layer; forming a termination bevel around and between each of said MOSgated active areas, wherein the bottom of said bevel is at the street along which the devices are to be separated from one another; and depositing a high resistance and electrically conductive film over the surface of said bevel and connecting said source electrodes to said drains electrodes for each of said devices.

12. The process of claim 11, wherein said bevel extends through the full thickness of said epitaxial layer.

13. The process of claim 11, wherein the lateral extent of said bevel from the top of said epitaxial layer to the bottom of said bevel which is equal to or less than the thickness of said epitaxial layer.

14. The process of claim 11, wherein the walls of said bevel form an angle of greater than about 45° to a normal to the surface of said epitaxial layer.

15. The process of claim 12, wherein the lateral extent of said bevel from the top of said epitaxial layer to the bottom of said trench which is equal to or less than the thickness of said epitaxial layer.

16. The process of claim 12, wherein the walls of said bevel form an angle of greater than about 45° to a normal to the surface of said epitaxial layer.

17. The process of claim 11, wherein said high resistance film is of a material selected from the group consisting of nitrides, oxides, silicon carbide and semi-insulating films including amorphous silicon, sipos, and silicon-rich nitride.

18. The process of claim 12, wherein said high resistance film is of a material selected from the group consisting of nitrides, oxides, silicon carbide and semi-insulating films including amorphous silicon, sipos, and silicon-rich nitride.

19. The process of claim 13, wherein said high resistance film is of a material selected from the group consisting of nitrides, oxides, silicon carbide and semi-insulating films including amorphous silicon, sipos, and silicon-rich nitride.

20. The process of claim 14, wherein said high resistance film is of a material selected from the group consisting of nitrides, oxides, silicon carbide and semi-insulating films including amorphous silicon, sipos, and silicon-rich nitride.